

Department of Food, Nutrition, and Packaging Sciences (Food, Nutrition and Culinary Sciences MS, Packaging Science MS, Food, Nutrition, and Packaging Sciences PhD)

Graduate Student Handbook
2022-2023

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Clemson® University

DEPARTMENT OF FOOD, NUTRITION, AND PACKAGING SCIENCES

223 Poole Agricultural Center

Box 340316, Clemson, SC 29634-0316

864-656-3397 www.clemson.edu/fnps



Clemson Graduate School Information

These guidelines supplement the current version of the [Clemson University Graduate School Policy Handbook](https://www.clemson.edu/graduate/files/pdfs/gc_policy_handbook.pdf) (https://www.clemson.edu/graduate/files/pdfs/gc_policy_handbook.pdf).

The policies and procedures of the Graduate School have been established to ensure that a consistent set of standards are followed from the admissions process all the way through to the awarding of degrees for every Graduate School program.

[Graduate School Forms](https://www.clemson.edu/graduate/students/forms.html)

(<https://www.clemson.edu/graduate/students/forms.html>)

[Graduate School Deadlines](https://www.clemson.edu/graduate/students/deadlines.html)

(<https://www.clemson.edu/graduate/students/deadlines.html>)

Overview of Program

The Food, Nutrition, and Packaging Sciences (FNPS) Program offers areas of study leading to three graduate degrees: Food, Nutrition and Culinary Sciences Master of Science (MS), Packaging Science Master of Science (MS) and Food, Nutrition, and Packaging Sciences Doctor of Philosophy (PhD). The PhD and MS (thesis) are research degrees that require a dissertation and thesis, respectively. The MS (non-thesis) is a terminal degree that may be suited for students who will pursue a career in business, education, or other areas that do not require substantial research experience.

Areas of specialization within FNPS are aligned with those of the major advisor (advisory committee chair). The most common areas of specialization include research topics in:

- Food Microbiology
- Food Chemistry
- Food Product Development
- Food Engineering
- Human Nutrition
- Food Packaging
- Packaging Materials
- Packaging Design
- Packaging Dynamics
- Packaging Logistics

Goal

The goal of the FNPS program is to educate students in food, nutrition, and packaging sciences. Students graduate with a basic understanding of fundamental and applied concepts in these areas.

What FNPS Graduates Do

The FNPS Program graduates help producers and consumers face critical challenges in areas such as food safety, food quality, food security, nutrition, packaging development. Our graduates are employed by:

- Colleges and Universities (Research/Teaching/ Extension)
- Food Companies
- Consulting Companies
- USDA-Agricultural Research Service
- USDA-Inspection Service
- Packaging Companies
- Hospital and School Systems
- Testing Laboratories

Professional Licensure

No professional licensure applies to the FNPS Graduate Program.

Approved Locations and Modalities of Delivery

The only approved modality of delivery is traditional (face-to-face). Students will be required to complete their coursework on the main campus. In some cases, select courses may be offered online or off-campus, but these are not typically offered on a regular basis. Research credits can be completed on the main campus, at Research and Education Centers, or at other locations approved by the advisory committee.

Cohort information

No cohort information applies to the FNPS Graduate Program.

Basic Program Metrics

Typical time to degree:

MS (thesis).....	2.0 – 2.5 years
MS (non-thesis).....	1.5 – 2.0 years
PhD.....	3.5 – 4.0 years
PhD (MS en route)	5.0 – 5.5 years

Contact Information

Dr. Feng Chen
Acting Department Chair
223 Poole Agricultural Center
Phone: 864-656-3397
fchen@clemson.edu

Dr. Paul Dawson
Graduate Program Coordinator
226 Life Sciences Facility
Phone: 864-656-1138
pdawson@clemson.edu

Ms. Kimberly Collins
Administrative Coordinator
223 Poole Agricultural Center
Phone: 864-656-3397
kcllms@clemson.edu

Advisory Board

There is no Advisory Board for the FNPS Graduate Programs.

Admission Requirements

Requirements (in addition to Graduate School requirements)

We require that all students have a faculty member agree to act as their major advisor prior to acceptance. For entering MS students, Bachelor of Science in a Food, Nutrition or Packaging related discipline is desirable, but not required. GRE (Graduate Record Examination) scores are required for application. Prospective major advisors may petition to waive this requirement. A duly justified request to waive the GRE requirement should be addressed to the Graduate Program Coordinator. Waiver requests from the applicant will not be considered. Students typically complete a MS before moving to a PhD degree program. The FNPS Program does not accept students into the PhD degree program directly from a BS degree.

Dates and deadlines

The FNPS Program has rolling admissions, and accepts students for the Spring, Summer and Fall semesters. Applications are considered year-round for all semesters with the final deadline of acceptance prior to the last day to register for classes.

Support Mechanisms

The most common mechanism of support is a Graduate Research Assistantship (GRA). Interested students are encouraged to contact prospective advisors regarding GRA availability and eligibility. These assistantships are awarded on a competitive basis directly by the Principal Investigator of each research project.

Graduate Teaching Assistantships (GTA) are sometimes available but are much less common than GRAs. In some cases, students may have the opportunity to combine GRA and GTA support.

Assistantships for master's students (thesis option) will normally extend for a maximum of two years. The same applies to fellowships awarded to master's students by the department.

Assistantships for doctoral students will normally extend for three years beyond the master's degree. The same applies to fellowships awarded to doctoral students by the department.

Continuation of assistantships and fellowships is contingent upon satisfactory academic performance (3.0 GPA), satisfactory performance of assigned duties associated with the assistantship/fellowship, as well as funding.

A few fellowships and merit-based scholarships are also available to be awarded on a competitive basis. Prospective advisors should inform interested students of these opportunities as appropriate.

Applications from students who have not been in communication with their prospective advisor before applying to the FNPS Graduate Program are rarely successful.

Fees

No Program-specific Fees apply to the FNPS Graduate Program.

Transfer Credits

The FNPS Program follows Graduate School guidelines for transfer credits.

Requirements for Degree

Minimum Degree Requirements

The FNPS Graduate Program follows Graduate School minimum degree requirements for credit hours (including research credits), time limits, and theses/dissertations.

WITH REGARD TO MS DEGREE CREDIT REQUIREMENTS, the Graduate School requires a minimum of 30 hours beyond the bachelor's degree for any Master of Science degree. A minimum of 24 credit hours of non-research coursework and a minimum of six credit hours of thesis research are required for a Master of Science degree. At least one-half of the total graduate credit hours required by the advisory committee, exclusive of thesis research, must be selected from courses numbered 8000 or above.

WITH REGARD TO PHD DEGREE CREDIT REQUIREMENTS, the Graduate School requires that a doctoral degree comprise a minimum of 30 credits beyond the master's degree, and at least 60 credits beyond the bachelor's degree. A minimum of 12 credit hours of non-research coursework and

a minimum of 18 hours of dissertation research are required for a doctoral degree. See a Suggested Timetable of Student Progress on page 9.

PLAN OF STUDY. The Plan of Study is tailored to each student’s needs and interests and must be approved by the advisory committee. There are several required core courses in the different programs, but all students are expected to be proficient in experimental design, statistical analysis, and in areas relevant to their research topics. Students may be required to correct deficiencies in their academic background by auditing or by enrolling in supplemental courses.

SEMINAR. MS students are required to register for Seminar (FNPS 8510) for one semester. PhD students are required to register for Seminar (FNPS 8510) for two semesters. Seminar taken during the master’s degree does not count toward the two required for the doctoral degree.

RECORD-KEEPING. Students must keep accurate records of experiments, along with data, and analyses. These records should be duplicated regularly and be available for inspection by the advisor or the advisory committee. It is the student’s responsibility to make back-up copies of data and maintain them to avoid loss due to any reason including theft or computer failure. Photographic records should be included as needed. The student must leave these records, including electronic files, with the advisor upon graduation or departure from the program.

NON-THESIS REPORT. Non-thesis MS students are required to present an exit seminar and/or final report in accordance with the guidelines set by their advisor.

Minimum Degree Requirements – MS in Food, Nutrition and Culinary Sciences - Thesis

Total Credit Hours	30
Coursework	24 credit hours
Core Courses Required	FDSC 8100, FNPS 8510, NUTR 8030, STAT 8010
Thesis Research 8910	6 credit hours
Exam Required	Final Oral Thesis Defense

Minimum Degree Requirements – MS in Food, Nutrition and Culinary Sciences - Non-thesis Food and Culinary Sciences Track

Total Credit Hours of Coursework and Creative Component	30
Required Courses (12 hours)	STAT 8010, FDSC 8100, FDSC 8210, FNPS 8510
3 out of these 9 Courses (10-12 hours)	FDSC 8110, FDSC 8120, FDSC 8150, FDSC 8200, FDSC 8070, NUTR 8030, NUTR 8040, NUTR 8050, NUTR 8070
6 to 8 Additional Hours	6000-level or higher
Advisor Required	

Minimum Degree Requirements – MS in Food, Nutrition, and Culinary Sciences - Non-thesis Nutrition Track

Total Coursework	30
Core Courses Required (12 hours)	FDSC 8100, FNPS 8510, NUTR 8030, STAT 8010 or ED 8770
3 out of these 6 Courses (9-10 hours)	FDSC 8110, FDSC 8120, FDSC 8150, NUTR 8040, NUTR 8050, NUTR 8070
8 to 9 additional hours	6000-level or higher
Exam Required	Cumulative exam
Non-thesis Nutrition Advisor	Dr. Angela M. Fraser afraser@clemson.edu

Minimum Degree Requirements – MS in Packaging Science - Thesis

Total Credit Hours	30
Coursework	24 credit hours
Course Required	FNPS 8510
Thesis Research 8910	6 credit hours
Exam Required	Final Oral Thesis Defense

Minimum Degree Requirements – PhD in Food, Nutrition, and Packaging Sciences

Total Credit Hours	60
MS or Equivalent	30 hours (24 course hours and 6 research hours)
Additional Hours for the Ph.D.	30 hours (12 course hours and 18 research hours)
Required Courses	FDSC 8100, FNPS 8510 (two semesters), NUTR 8030, STAT 8010
Required Exams	Comprehensive Exam (oral and written) Final Oral Dissertation Defense

Advisory Committees

The FNPS Program follows Graduate School guidelines for forming or modifying Advisory Committees.

Preliminary Exams

Preliminary Exams are not conducted in the FNPS Graduate Program.

PhD Comprehensive Exam

The advisory committee meets with the student and sets the details and rules for the examination. The format of the written exam is at the discretion of each committee member and may be open or closed book. Written examinations should be evaluated and returned to the student with appropriate comments preferably a week before the oral examination. The oral examination will include questions covering areas where improvement is needed on the written examinations. Oral exams typically last 2 to 3 hours.

Expectations for Thesis/Dissertation

The preferred format is that of individual chapters presented as independent publishable units, but there is flexibility to allow for other formats as suggested by the advisory committee. Submission of a printed copy of thesis or dissertation is required for the department and students are expected to submit completed manuscripts to their major advisor.

Additional Requirements

No additional requirements apply (i.e., no foreign language requirement, no internship requirement, etc).

Suggested Timetable of Student Progress

Time	Action
Before Registration	Obtain information about program requirements and guidelines. Meet with your major advisor and the Graduate Program Coordinator.
First Semester	Introduce yourself to faculty members and staff of the department. Become acquainted with policies for laboratory safety, confidentiality, plagiarism, research facilities as appropriate and vehicle use. In consultation with major advisor: <ul style="list-style-type: none"> • Begin project literature review. • Select Advisory Committee members (form GS2). Prepare Research Outline. Conduct first Advisory Committee Meeting. Complete Plan of Study (form GS2). Consider applying for fellowships. As always, consult with your advisor.
Second or Third Semester	Complete literature review. Present Research Proposal. Schedule second Advisory Committee Meeting.
All Semesters	Keep major advisor and advisory committee informed of your progress. Schedule meeting with advisory committee at least once a year. An approved summary of each meeting should be kept on file. Every year, provide the Graduate Program Coordinator the citations for your scientific presentations and publications completed during that year.
Comprehensive Exam for PhD Only	Comprehensive Exams (Form GS5) are typically completed 12-18 months before graduation, but no later than 6 months before graduation.
Final Semester	Provide advisory committee final draft of thesis/dissertation at least two weeks before the defense. This draft must be pre-approved by the major advisor. Set the date for exit seminar and defense at least one month in advance. MS Students: GS7M Form; PhD Students: GS7D Form Submit thesis/dissertation to the Graduate School.
After Defending Successfully	Provide Evaluation of Graduate Experience: <ul style="list-style-type: none"> • Share with the Graduate Program Coordinator, Department Chair, or your advisor any suggestions for improvement of our program. • Complete the FNPS Program Exit Questionnaire.

Standards of Performance

Annual Review of Progress

Graduate students are required to meet at least once a year with their advisory committee. During these meetings, students should present progress reports on research, coursework, and professional development activities. The advisory committee should make recommendations for improvement of the work and activities and approve timelines for completion of the degree.

Academic Performance

The FNPS Graduate Program follows Graduate School policy and expectations for academic performance.

Professional Requirements and Expectations

PUBLICATIONS. Graduate students are expected to prepare their research results for publication in a timely manner prior to graduation. Publications are important to the student, the department and the faculty. Peer-reviewed publications are documentation of research accomplishments and serve as a criterion for continued commitment of funds by those who have supported the research. The student is required to submit a list of publications, presentations and other scholarly achievements to the Program Coordinator in May of every year.

SERVICE TO THE FNPS DEPARTMENT. Participation in departmental functions, meetings, seminars, and search committees is highly recommended.

TEACHING. A teaching experience is strongly encouraged, but not required. Graduate students should show initiative in helping new graduate students or undergraduate students in their research. The teaching experience can be conducted under the supervision of the advisor, if a formal GTA is not available.

PROFESSIONAL MEETINGS. Participation in professional societies including through meetings at state and national levels is strongly encouraged. Efforts should be made by the major advisor to assist with funding for at least one major meeting presentation during the student's tenure. The advisor should also lead the student to seek travel funds from external sources.

PROFESSIONAL ORGANIZATIONS. Students should affiliate with appropriate professional societies, e.g., Institute of Food Technologists, Research Chef's Association, Academy of Nutrition and Dietetics, Institute of Packaging Professionals, American Society of Nutrition, International Association of Food Protection, American Society for Microbiology, Society of Toxicology, among others.

GRADUATE STUDENT ASSOCIATION. Students are encouraged to participate in the Graduate Student Association. An organizational meeting is held each year to elect officers to the Graduate Student Association. Other meetings are held throughout the year. Interaction with fellow students is a necessary component of graduate student training.

HONORS AND AWARDS. Election to honor societies signifies research excellence and scholarship. Superior scholars are frequently awarded fellowships. These recognitions aid in documenting the student's success in his chosen field of study.

Performance Expectations for Graduate Assistants

The FNPS Program follows Graduate School guidelines on performance expectations for Graduate Assistants.

Attendance Policies

The FNPS Program follows Graduate School guidelines on performance expectations on attendance.

Administrative

Email Access/Use

Email is the most common medium used by the department and the University to communicate with you. Many events and information of importance to your success in the program are announced via email. It is very important that you check your email regularly, at least once a day. If you are requested to respond, you should do so in a timely manner.

Mailboxes and Personal Mail

Each graduate student is assigned a mailbox, which you should check regularly. All personal mail is to be directed to your home address. The department assumes no responsibility for personal deliveries. Graduate students must complete a change of address form with the postal service for any mail items you receive at Clemson and would like to continue to receive after leaving Clemson. If you don't want to continue receiving the mail items, please have your name removed from the mailing list before you leave Clemson.

Telephone Use

There are a limited number of telephones in the laboratories. Please keep your cell phone with you while working in the building.

Outgoing Mail

Both U.S. and campus mail, can be placed in the appropriate mailbox in the department mailroom. You must provide adequate postage for any U.S. mail. International mail must be taken to the U.S. Post Office.

Keys

You will be issued a key to your office and/or laboratory and building card access. Keys to specific research laboratories will be issued upon obtaining permission from the faculty member in charge of the lab. Students leaving the University through graduation, or for any reason, ***must*** return all keys to the department office. A fee will be charged for any unreturned key.

The key(s) issued to you are for your use exclusively. You must never loan keys to anyone else, not even another graduate student. Failure to observe this rule may result in revocation of your key privilege. Unauthorized possession of a key to a University building is prohibited by South Carolina law. You are responsible for locking all rooms to which you have gained access with a key.

Building Security, Maintenance

As you enter and leave the building, be sure that all doors are locked behind you. Report building problems to the department office. If something major is found wrong outside of normal office hours, inform your Major Advisor and/or the Department Chair after you have called University Security at 864.656.2222.

Copy Machine Use

Graduate students may use the departmental copier for necessary research work. However, excessive use should be avoided. In particular, multiple copies of thesis or dissertation drafts should not be made on the departmental copier. If use becomes excessive, you will be asked to obtain permission from your Major Advisor before each use.

Fax Machine Use

You may use the department's facsimile machine only for official department business purposes with authorization from your Major Advisor. Instructions are provided above the fax machine in the copy/mailroom. Personal transmissions may also be sent at the Student Union or other locations in downtown Clemson.

Office Supplies

The department does not furnish office supplies to graduate students for personal use. All research contract-related use of office supplies, including letterhead stationery, must be authorized by your Major Advisor.

Equipment Use/Modification

You may use existing equipment in various laboratories only after obtaining the express permission of the faculty member in charge of the laboratory, or the department chair for equipment in the Food Chemistry, Research Kitchen, Sensory, Sunoco, Cryovac-Flavourmark, or DuPont laboratories. It is a firm rule of the department that no instrument/piece of equipment is to be modified in any way without the express permission of the faculty member in charge of the particular equipment. It is the responsibility of the Major Professor to repair any equipment broken by their graduate students in another professor's laboratory. Thus, it is extremely important for graduate students to clear it with their Major Professor BEFORE using equipment in other laboratories. You will be personally responsible for any equipment signed out to you. Borrowing/lending of equipment/keys and key codes between graduate students without approval from the person in charge of the facility is prohibited.

Ordering Supplies and Equipment

If you order equipment or supplies without the permission of your Major Advisor or the Department Chair, you will be responsible for paying the bill. In addition, students placing orders are responsible for being cognizant of state purchasing regulations and may be liable for paying the bill in the event of violations. When placing orders over \$2,500 (total of the entire purchase — not per item — including tax, shipping and handling), whether over the phone or purchased in town, you *must* see the departmental accountant prior to making the order or purchase.

Supplies will normally be delivered to the mailroom (room B221 Poole Agricultural Center). Supplies needing refrigeration or to be kept frozen will be placed in the refrigerator or freezer in the departmental mailroom, B221 Poole Agricultural Center. If the contents do not match the packing list, notify your Major Professor ASAP. Do not pick up any box that has not been checked in or any box that does not have either your name or your Major Professor's name on it.